

Claims

1. A dispensing pump for a viscous liquid comprising:
a cylinder;
5 a piston mounted for reciprocation within said cylinder;
an inlet for admitting liquid to be dispensed into said cylinder;
a check valve arranged selectively to open and
10 close said inlet opening;
said piston having a dispensing passage in fluid communication with said cylinder and with a dispensing valve;
wherein said pump further comprises a cut-off valve
15 arranged selectively to open and close fluid communication between the piston dispensing passage and the cylinder as the piston reciprocates within the cylinder.
- 20 2. A pump as claimed in claim 1 wherein the cut-off valve comprises a sliding valve member which is arranged to reciprocate within the dispensing cylinder so as selectively to open and close one or more openings in the dispensing piston.
- 25 3. A pump as claimed in claim 2 wherein the openings in the piston are formed in a side wall of the piston, and the valve member slidably engages an outer surface of the piston.
- 30 4. A pump as claimed in claim 2 or 3 wherein the piston is provided with a pair of axially spaced shoulders so as to limit the axial movement of the valve member thereon.
- 35 5. A pump as claimed in any of claims 2 to 5 wherein the cut-off valve member comprises a radially outer wall

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for engaging the inner surface of the cylinder and a radially inner wall for engaging the piston.

5 6. A pump as claimed in claim 5 wherein the inner and outer walls are connected by a radially extending web.

10 7. A pump as claimed in any preceding claim wherein the check valve comprises a ball valve comprising a ball received upon a valve seat.

8. A pump as claimed in claim 7 wherein the ball is retained by a spring.

15 9. A pump as claimed in claim 8 wherein the ball is retained by a return spring for the dispensing piston.

10. A pump as claimed in claim 9 wherein the spring locates over the end of the dispensing piston.

20 11. A pump as claimed in claim 8, 9 or 10 wherein the spring is formed with a variable diameter so as to retain the ball adjacent the opening.

25 12. A pump as claimed in claim 8, 9, 10 or 11 wherein the spring is configured and arranged such that during the return stroke of the dispensing piston the ball is maintained in the inlet opening until the cut-off valve closes.

30 13. A pump as claimed in any preceding claim wherein the dispensing valve is a self-sealing valve.

14. A pump as claimed in claim 13 wherein the valve is an elastomeric valve.

35 15. A pump as claimed in any preceding claim comprising an air vent which allows air to enter a reservoir

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receiving the pump around the pump piston.

5 16. A dispenser for viscous liquids comprising a reservoir for the liquid to be dispensed and a dispensing pump as claimed in any preceding claim arranged to dispense liquid from the reservoir.

10 17. A dispenser as claimed in claim 16 wherein the dispensing pump is mounted to an outlet of the reservoir.

15 18. A dispenser as claimed in claim 16 or 17 wherein the reservoir is housed in a housing for attachment to a supporting surface.

19. A dispenser as claimed in claim 16 or 17 wherein the reservoir is free standing.

20 20. A dispenser as claimed in any of claims 16 to 19 wherein the reservoir is unvented.

21. A dispenser as claimed in any of claims 16 to 19 wherein the reservoir is vented.